

REMARKS

Claims 1 and 5 are pending in this application. Reconsideration is respectfully requested in light of the following remarks.

Clarification from the Response of October 28, 2003

Applicants respectfully point out that there was an error in the response filed October 28, 2003 in the remarks section regarding the 37 CFR §1.132 declaration that was filed with the response of October 28, 2003. In particular, Applicants respectfully point out that it was incorrectly asserted on pages 9-10 of the response that the fiber length in the fibers in Experiment 2 is 0.3 mm. In actuality the fiber length of these fibers is 3.0 mm.

Rejections under 35 U.S.C. §112, first paragraph

Claims 1 and 5 are rejected under 35 U.S.C. §112, first paragraph as allegedly not being enabled. The Examiner asserts that only when the glass or carbon fibers have an average length of 0.5 mm are the claims enabled. Applicants traverse.

The Examiner further states that Example 1 of the present written description and Experiment 2 of the declaration that was dated May 28, 2003 differ only in the length of the staple fibers and that Experiment 2 does not satisfy the elastic modulus ratio

although the length of the staple fibers is within the scope of the claims. Furthermore, the Examiner states that the elastic modulus ratio  $1.1 \leq E1/E2 \leq 4$  is satisfied only when the length of the short fibers is 0.5 mm.

In the response that was filed on March 12, 2004, Applicants presented the argument that the elastic modulus of the tread is largely dependent on the elastic modulus of the staple fibers themselves and that the elastic modulus ratio is also largely dependent on the orientation direction of the staple fibers. Applicants respectfully repeat that the equation  $1.1 \leq E1/E2 \leq 4$  is not satisfied merely by compounding a small amount of staple fibers.

The elastic modulus ratio,  $E1/E2$ , is dependent not only on the above factors, but is also dependent on the aspect ratio of the staple fibers ( $L/D$ ). The fact that the elastic modulus ratio is dependent on the aspect ratio of the staple fibers is a fact that is evident to those of skill in the art.

As was pointed out by the Examiner in the Office Action of June 3, 2004, in Example 1, the aspect ratio is 34.5 and the elastic modulus ratio is 1.42, while in Experiment 2, the elastic modulus ratio exceeds 4, as the aspect ratio has an extremely large value of 272. However, Applicants respectfully point out that in order to have an elastic modulus ratio that satisfies the equation  $1.1 \leq E1/E2 \leq 4$ , not only must one consider the average fiber

length of the staple fibers, but the aspect ratio must also be considered.

Consequently, Applicants respectfully submit that this equation can be satisfied when the fiber lengths differ. In particular, Applicants aver that irrespective of the length of the staple fibers, whether the staple fibers have a length of 0.5 mm or any fiber length in the range of 0.1 to 5 mm (as recited in claim 1), one of skill in the art can easily obtain a tread that satisfies the elastic modulus ratio of  $1.1 \leq E1/E2 \leq 4$ . In other words, one of skill in the art could make and use the invention commensurate in scope with the claimed invention without undue experimentation. The enablement rejection is inapposite. Withdrawal of the rejection is warranted and respectfully requested.

#### **Rejections under 35 USC §103**

Claim 1 is rejected under 35 U.S.C. §103(a) as being unpatentable over JP '204 (JP 62-191204) in view of JP '209 (JP 07-061209) and JP '214 (JP 10-129214) and optionally further in view of German '792 (DE Patent No. 3122792).

Claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over JP '204 in view of JP '209 and JP '214 and optionally further in view of German '792 and further in view of JP '603 (JP 03-258603).

Applicants traverse.

**Removal of the Rejections over Claims 1 and 5**

Braking performance on ice and snow is usually improved by increasing the scratching strength to icy surfaces, that is, increasing the elastic modulus  $E_1$  in the tire radial direction. This consequentially leads to the assumption that a larger elastic modulus ratio results in a braking performance on ice and snow that is expected to improve as the elastic modulus ratio becomes larger. However, in reality, when the elastic modulus ratio becomes larger than 4, the braking performance on ice and snow actually decreases. For example, when Example 1 and Experiment 2 are compared, the braking performance on ice of Experiment 2 having an elastic modulus of 4.22 is 92, while the braking performance on ice of Example 1 is 125. In this case, Example 1, which falls within the scope of the claims, has better braking performance on ice and snow than Experiment 2, which has an elastic modulus ratio that falls outside the scope of the claims (please note that it is greater than the maximal allowed value). This demonstrates that the excellent effect showing an increase in braking performance on ice by at least 30 is obtained when the elastic modulus ratio satisfies the equation  $1.1 \leq E_1/E_2 \leq 4$ . This effect would never be surmised by any of the cited references, which do not mention or remotely consider the elastic modulus ratio. As has been pointed out in

previous responses and as is repeated here, only when the elastic modulus ratio equation  $1.1 \leq E1/E2 \leq 4$  is satisfied does one obtain the excellent and unexpected effects seen in the instant invention.

For the above reasons, none of JP '204, JP '209, JP '214, German '792 or JP '603 can render obvious the instant invention, either used separately or combined. The rejections are inapposite. Withdrawal of the rejections is warranted and respectfully requested.

With the above remarks, Applicants believe that the claims, as they now stand, define patentable subject matter such that passage of the instant invention to allowance is warranted. A Notice to that effect is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact T. Benjamin Schroeder (Reg. No. 50,990) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By   
Joseph A. Kolasch, #22,463

BS  
JAK/TBS/mua  
1403-0203P

P.O. Box 747  
Falls Church, VA 22040-0747  
(703) 205-8000